y = -6x + 2 3x + 8y = 16

y = 4x – 10 y = 5

y = -10x x = -11

**Parallel and Perpendicular Lines I**  Name:

Rodriguez/Geometry

**Linear Equations:**

(How they’re written)

**Parallel Lines**

* They have the same slope.

From equations:

**Perpendicular Lines**

* When you multiply their slopes together, you get –1.

From equations:

**Refresher: Re-arranging Linear Equations**

16x – 8y = 24 3y + 2x = -10 -9x – 21y = 100

**Refresher: Actual Meaning of Slope + Calculating It**

What slope represents:

Calculating it:

(-4, 14) & (-8, 12) (1, 10) & (-9, 3) (-55, 81) & (34, 76)

**Refresher: How to Tell if a Point Lies on a Line**

Is (-2, -16) on y = 3x – 10? Is (1, 4) on y = -2x + 8? Is (3, -2) on 2x – 8y = 10?

**Refresher: Writing the Equation of a Line**

**What do you need? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Slope of 6, y-int (0, 7) passes through (-2, 0) and (0, -4)

passes through (-7, 1) and (4, 8) slope of -2/3, passes through (6, -2)

**Quick**: state whether the lines are parallel, perpendicular, or neither.

1.  2.  3. 

4.  5.  6. 

**Next**: for each set of lines, figure out which ones are parallel or perpendicular. (Unless you think no pair is!)

1. 

2. 

**Let’s make it interesting**:

1. Write the equation of a line that passes through (3, 5) and is parallel to y = 5x + 12.

2. Write the equation of a line that passes through (-8, -2) and is perpendicular to y = 2x – 6.

3. Write the equation of a line that passes through (-6, 4) and is parallel to y = -2/3x + 3.

4. Write the equation of a line that passes through (-6, 1) and is perpendicular to y = -3/4x – 1.

5. Write the equation of a line that is parallel to y = 8.

6. Write the equation of a line that is parallel to 4x + 3y – 9 = 0 and passes through (-3, -1).

7. Write the equation of a line that is perpendicular to 12y = 2x + 10 and passes through (-2, -1).

8. a) Find the equation of a line that is parallel to the x -axis and goes through the point (-4, -7).

a) Find the equation of a line that is parallel to the y-axis and goes through the point (-4, -7).

9. Find the equation of a line that is perpendicular to the x-axis and goes through the point (4, 8).